inhibitor or an angiotensin receptor blocker at the time of hospital discharge. Optimal medical management according to current clinical guidelines for the treatment of heart failure should be initiated or maintained throughout the long-term care of these patients.1,8,9 Patients with heart failure and ischemic heart disease undergoing CABG surgery with reduced LVEF deserve our best surgical techniques, as well as standardized and optimal medical long-term care. CABG surgery alone is not the only way here!

References

Commentary: Is heart failure with moderately reduced ejection fraction a useful classification for cardiac surgery?

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In this issue of the Journal, Deo and colleagues1 present an analysis of coronary artery bypass patients with heart failure and moderately reduced ejection fraction (HFrEF). Recent years have seen increasing interest in the different phenotypes of heart failure, namely with preserved ejection fraction (HFP EF) versus reduced ejection fraction (HFrEF).

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CENTRAL MESSAGE

Patients with heart failure and moderately reduced ejection fraction (HFrEF) have roughly similar short-term and long-term outcomes after coronary artery bypass grafting as those with heart failure and reduced ejection fraction (HFrEF). Whether HFrEF is truly a separate pathophysiological entity from HFrEF for cardiac surgery remains unclear.
A third category of moderately reduced ejection fraction is newer and less commonly used. This group is not well understood, because they are often left out of clinical trials, falling into a gray area. The problem with the category, and likely why it is not commonly used, is that the phenotype is a bit of a hybrid, with heterogenous phenotypes. Analyses of patients with HFmrEF have shown mixed results, with some reporting survival between that of HFP EF and HFrEF and others suggesting survival closer to that of HFrEF. Some differences may be related to the extent of coronary disease, but clearly more work is needed to clarify the pathophysiologic differences between these groups and determine whether alternative heart failure groupings besides ejection fraction range are needed.

This work by the Veterans Affairs group used a large, homogenous cohort of largely male veterans with ischemic coronary disease. This is helpful, given the heterogeneity of HFmrEF patients. Unfortunately, a major limitation of the study is the use of non–heart failure patients as the control group, which limits the ability to directly compare any differences between HFmrEF and HFrEF. Long-term survival was lower in the HFmrEF and HFrEF groups, with 10-year estimates of 41% and 37%, respectively. A landmark analysis would be an excellent adjunct in this situation, given that all groups experienced declining mortality rates through 2 years. Both heart failure groups had higher risk-adjusted hazards of mortality, with no significant difference between the groups. Patients with HFmrEF had a higher rate of myocardial infarction and a lower rate of heart failure–related hospitalization.

HFmrEF has a mixed impact after coronary artery bypass grafting (CABG) but largely correlates with the risk associated with HFrEF. However, it is important to remember that EF measured by echocardiography is simply a snapshot in time, and perhaps a more important characteristic is the directional trend of EF, as highlighted by a recent article by Brann and colleagues examining this “middle” cohort of HFmrEF patients. Future research should focus on identifying pathophysiologic differences that make HFmrEF a distinct identity. Clarifying risk differences from both HFP EF and HFrEF will be critical to understanding the utility of this relatively new classification.

References